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AN
ESSAY
ON
THE SUBJECT PROPOSED
BY
THE ROYAL IRISH ACADEMY,

*“ Whether, and how far, the pursuits of Scientific, and Po-
lite Literature, assist, or obstruct, each other.”*

If we can direct the lights we derive from the exalted speculations of philosophy upon the humbler field of the imagination, we may not only communicate to the taste a sort of philosophical solidity, but we may reflect back upon the severer sciences some of the graces and elegances of taste, without which the greatest proficiency in those sciences will always have the appearance of something illiberal.

Burke's Introduction to Treatise on Sublime and Beautiful.



AMONG the many errors of the understanding, by which the learned have been misled in their conclusions, or distracted in their attempts at more cautious investigation, few have been of greater injury to the cause of truth, than the mistake of a concomitant for a cause, of a casual for a necessary connection, and a fortuitous contiguity in point of time for some fixed and established relation in the great sys-

tem of natural dependencies. Cotemporary phænomena we accustom ourselves either to refer to one common principle of causation, or to attribute to the one some degree of influence on the production of the other : we are naturally pleased with this order of things to which we ourselves have given existence, and we veil our rashness in instituting analogies under the specious appellations of “ love of simplicity,” and “ a study to preserve unbroken the general harmony of nature.” An error of this kind has for a long time partially prevailed relative to the subject proposed by the Academy for discussion, and though in itself it by no means requires a formal refutation, yet from it's connection with our question it derives at present a degree of adventitious importance.

It has been observed, that while science in these latter ages has soared to a height not only inaccessible but incomprehensible to the ancients, Polite Literature still remains in the neighbourhood of those regions where the remotest antiquity had placed her—that while the pensive brow of the severer Muse has been gradually relaxing into a smile of greater complacency, the votaries of her more graceful sister have had but little reason to boast of any encrease in her partiality. Hence it has been concluded, that there is some natural repugnance between the two pursuits, and that particular attachment to one must necessarily be attended by inferiority in the other. Thus the grand cause of Learning has been split into factions, and the two presiding deities

been considered not as allies faithfully and perseveringly united in the dispensation of the blessings of civilisation and refinement, but as rivals, each jealous of the other's ascendancy, and panishing any particular attention paid to her competitor by manifest indications of coldness and neglect.

In order to answer this objection, there will be no occasion to enter into a minute historical account of their connection in their origin, progress, and decline in each country, where their happy influence has been felt: it will be sufficient at present to mention a few leading facts, from which it may be seen, that the two pursuits are not in their own nature irreconcilably averse to each other; and to enumerate some circumstances, from which we may easily account for their comparative states in ancient and modern times, without having recourse to such a bold and unwarranted hypothesis.

In that twilight state of human existence, which intervenes between the dreary gloom of savage solitude, and the cheerful lustre of civilised society, the poets were the first, who, from their superior elevation of soul, were enabled to catch the first partial rays of knowledge, as they struggled through the clouded atmosphere of error and the mists of superstition. It must, indeed, be confessed that the light, which they thus contributed to diffuse over the yet unexplored paths of learning, was in some degree diverted from the direct line of philosophical accuracy, and tinged with the lively and variegated hues of poetry; their knowledge of a new star was announced by the deification of some cele

brated mortal; their attempts to explain celestial phenomena, or describe the constitution of the universe, were delivered under allegorical representations; and their morality, instead of being inculcated in the plain didactic form, was insinuated in the specious garb of narrative and of fable. But, therefore, to deny the original union of poetry and philosophy, would be as unreasonable (says an * old writer), “as to assert that day-light proceeded from some other cause than the diffusion of the sun’s beams over the surface of the earth. For if we deliver poetry from the restraints of metre and versification, and remove the veil of mythological obscurity in which its sentiments are enveloped, what other difference will then remain between it and philosophy, than a difference as to the dates of their respective origin?” “During the earlier ages (continues † he) the human mind required a milder species of philosophy, that would calm the restlessness inseparable from primitive rudeness, sooth the affections by the blandishments of harmony, captivate the attention by interesting fable, and lead mankind, as it were by the hand, into the paths of knowledge; in short reason was

* Maximus Tyrius, Dissert. 9. “Οιον ἔστι τις ἢ τὴν ἡμέραν ἄλλο τι ἤγησάιτο πλὴν ἡλίου φῶς πίπτειν εἰς γῆν, ἢ τὸν ἥλιον ὑπὲρ γῆς θέοντα ἄλλο τι ἢ ἡμέραν. ἔτι τοι τὰ τῆς ποιητικῆς πρὸς φιλοσοφίαν ἐχέει. Καὶ γὰρ ποιητικὴ τι ἄλλο ἐστὶ ἢ φιλοσοφία, τῷ μὲν χρόνῳ παλαιὰ, τῇ δὲ ἀρμονίᾳ ἐμμετρὸς, τῇ δὲ γνῶμῃ μυθολογικὴ; καὶ φιλοσοφία τι ἄλλο ἢ ποιητικὴ, τῷ μὲν χρόνῳ νεώτερά, τῇ δὲ γνῶμῃ σαφέστερά, τῇ δὲ ἀρμονίᾳ εὐζώνοτερά;

† Ἡ ψυχὴ, πρότερον δὲ ἀώλοττα, καὶ τὴν καλεσμένην ταύτην εὐθδεῖαν, εἰδοτο φιλοσοφίας μεσικῆς τινος καὶ πρᾶστερας, ἢ δια μύθων δημαγωγῆσαι αὐτὴν, καὶ μεταχειριεῖται, καθάπερ αἱ τιτθαὶ τῆς παιδῆς μυθολογίας βακχολογοῦσι

then in its infancy, and demanded from its instructors such treatment as children receive from their nurses." We are not to imagine, that these expressions of the Greek writer are necessarily confined to moral philosophy, though the nature of the subject, of which he is treating in that dissertation, prevents him from extending the observation, for (as Mr. Twining * remarks) the earliest philosophy was natural philosophy, and the earliest vehicle of that philosophy was verse: Ophreus, Hesiod, Parmenides, Empedocles, and Tirales, are all mentioned by Plutarch as poet-philosophers of this kind, and Pythagoras is said to have written a poem on the Universe in Hexameters." But to return to Tyrius — † "When at length (says he) reason had encreased in strength and approached to the maturity of manly understanding, it became filled with incredulity and suspicion, too judicious to admit the fables without investigation, or approve of the obscurity in which their signification was involved; then it was that philosophy was divested of her former decorations; the pompous train of poetic imagery was dismissed, and the mystic veil of allegory removed from before her." Yet, though they thus became separate, they were still sympathetic existences, they flourished not, but in association, they appeared united in one common fate and governed by

* Commentary on Aristotle's Poetics.

† Προϊεσα δε (ἡ ψυχή Scil.) εἰς δεινότητα καὶ ἀνδρίζομένη, καὶ ὑποσιμωλωμένη ἀπιστίας καὶ πανουργίας, καὶ τῆς μυθῶς διεξυπόμνητος, καὶ ἐκ ἀνεχομένη τῶν αἰνιγμάτων, ἐξεκαλύψε τι καὶ ἀπέδυσε φιλοσοφίᾳ τὴν αὐτῆς κοσμήν, καὶ ἐχρησάτο γυμνοῖς τοῖς λόγοις.

one common law, they seemed as mutual moons, each invariably attending the other in its revolutions through the universe, each deriving its chief lustre, and more resplendent radiance, from the same inexhaustible source of light and truth, yet not a little enlivened by the reflex beams of the other. And although the* genius of the Roman people seemed averse from such pursuits, every man in the earlier ages of that state devoting himself particularly to those studies, which were calculated to procure him political pre-eminence, and even to the latest period of the Commonwealth the policy or superstition of the Senate discountenancing the Grecian philosophy, yet has Rome produced on a philosophical subject one of the most sublime, and occasionally, the most harmonious poems in any language; and when learning began to sink under the overwhelming force of barbarism, we find Boethius, one of the latest of Roman poets, singing a hymn of consolation to declining philosophy. If we carry our historical view still farther, we find that in the gloomy interval of Gothic ignorance, both were equally neglected and uncultivated, that these were the ages of phantastic hypotheses and unmeaning quibbles, as well as monkish rhymes and puny witticisms, and that religion was equally corrupted by absurd legendary tales, and frivolous stories of saints and devils, as by the scholastic jargon of metaphysi-

* *Populo Romano nunquam ea copia fuit, quia prudentissimus quisque maxime negotiosus erat, ingenium nemo sine corpore exercebat.* Sall. Bel. Cat.

cal theology. Whatever has been said of the original union of poetry with philosophy may be extended to eloquence ; for, in the earlier ages of learning, the philosopher and orator also were united, and it was supposed that their respective ends would be most effectually accomplished by their co-existence ; * “ Hanc enim perfectam philosophiam semper putavi, quæ de maximis quæstionibus copiose posset et ornate dicere.” After the light of learning was restored, the two arts continue still associated, those countries which have been particularly distinguished for their poets, orators, historians, and critics, have also to boast of the most illustrious names on the records of mathematics and philosophy, whether natural, moral, or metaphysical. To conclude this sketch of their connected history, we may say (adopting an idea of † Grattan’s) that in every country Polite Literature has rocked the cradle of Philosophy in its infancy, has lamented it’s decline, and followed it’s fall ; that it hailed it’s resuscitation, when it rose from the tomb of Gothic barbarism, and has since uniformly accompanied it in its descent through the vale of time, and that wherever the sublime communications of science have been disregarded, there the politer muse has not deigned to raise her fascinating voice.

The mathematical sciences, like the objects of which they treat, may be considered as quantities capable of en-

* Tully Tusc. Quæst.

† “ I have rocked the cradle of Irish Independence, and I have followed its hearse.”

crease by the addition of the least part, it is in their nature therefore to be progressive, and since the grounds of comparison are innumerable, and the circumstances of relation infinitely diversified, their progress knows no assignable limit. If the extent of number considered in one direct line transcend the utmost efforts of thought, and outstrip the most rapid methods of calculation, what are we to think if this infinity be propagated on every side by the inexhaustible power of combination, each successive change presenting a new order of the whole system, resolvable into an indeterminate number of new dispositions among its elementary parts, and every different mode of juxtaposition susceptible of an endless variety of relations undiscovered during the contemplation of former arrangements? Again, if on account of the innumerable variations in the length, the number, and mutual inclination of lines and surfaces, pure geometry alone afford such a vast field for speculation, that the human intellect, after having exspatiated there for near three thousand years, finds still new tracts abounding in objects unnoticed by former inquiries, what bounds can now be prescribed to discovery, when new and extensive principles have been adopted, new modes of investigation applied, when regions, hitherto unknown, even in name, or considered incapable of being rendered subject to mathematical research, have been added to the dominions of science? In scientific subjects every new discovery, however noble in itself, however admirable for the skill and ingenuity displayed in the research,

and the simplicity and universality of the conclusion, derives its principal claim on our consideration from the fertility with which it supplies new deductions, each successively unfolding new properties, and pointing out relations hitherto unobserved. Thus every step that we ascend in the progress of discovery, at the same time that it gives us a more commanding view of the ground that we have passed, enables us to catch a glimpse of some more elevated pinnacle, which the interposing objects had hitherto prevented us from observing, and when at length we have obtained the possession of this eminence, we value it chiefly as it facilitates our approach to a summit still more elevated and remote. The discovery, for which Pythagoras thanked the gods by the sacrifice of a whole hecatomb, was entitled to the gratitude of future mathematicians for consequences of which the philosopher himself could have had no conception, for establishing the connection between arithmetic and geometry, and opening the passage to trigonometrical computation. The exultation, which drew from Archimede the proud exclamation “Εὐρήκα,” has long been lost in the ardor of ulterior discovery ; and his method of exhaustions, beautiful and accurate, and scientific as it is, retains it's place in the list of great discoveries principally from it's having given birth to the method of indivisibles, and prepared the way for the more extensive and philosophical reasonings of the immortal Newton. The observations and researches of every one whose name is mentioned in the history of Science, from the

first rude gaze of the Babylonian shepherd to the accurate examinations of a modern astronomer, assisted by the elaborate apparatus of a royal observatory, all were indispensably necessary for the perfection of astronomical knowledge, and the consummation of that great monument of human industry and human understanding. Before a Newton or a Laplace could have shone forth upon the world, it was likewise necessary that the Egyptian husbandman should have made the first feeble efforts at geometrical measurement, that succeeding and more enlightened minds should have contributed their assistance in extending and improving the confined views of the former, that Euclid, and Apollonius, and Archimede should have added their labours, and that afterward, in a more advanced age, Cavallerius, Vieta and Wallis, should have enriched with unexpected treasures, and enlarged with new possessions, the orbis habitabilis of the scientific world. Thus, even though no very distinguished man should arise for ages, the great work of science continues advancing, fresh materials are every day added to the mass of acquirements; every year, as it passes, brings some new offering of light and truth, until at length, when the fulness of time is arrived, and a sufficient quantity of splendor has been collected in this chaos of accumulated information, the whole collected body undergoes one general purification, one effulgent soul is made the receptacle of all the light thus separated and refined, fresh rays of origina

brightness are annexed to it, and it becomes a sun to illuminate a long succession of future ages.

But with respect to those more refined and elegant pursuits that are usually comprehended under the name of *Belles Lettres*, it may be easily perceived that the case is widely different. From the very constitution of his nature, and from the state in which he finds himself, in the very infancy of society, man is necessarily an orator, and the objects and business of oratory are nearly the same in all ages. Among all the melancholy pictures that travellers have given from time to time of human degradation, hardly any one has ever yet been exhibited of a race of men denying the existence of a Supreme Being. However defiled and disfigured the character of the Creator might have been by attributing to it their own depraved propensities, they still considered Him with awe and reverence, and submissively offered the homage of their adoration. Hence we always find, in every age and nation, some whose peculiar office it was to appease the Deity by prayer, and to unfold the secrets of their wild mythology, to set forth to the people the supposed revelations of their god, and to explain the superstitious rites observed in their worship, to prescribe rules of conduct for the living, and to celebrate the praises of such departed heroes and sages, who had formerly improved and adorned their community. Such were the offices of a priest in the earliest days, and these necessarily introduced the characters of poet and of orator, of both conjointly, for at first the di-

vision was unknown ; oratory every where lisped in numbers, and * “ song ” was considered, “ but as the eloquence of truth.” Again, man has never been found to exist in that state of absolute solitude, which some philosophers are so fond of imposing on the world as the state of nature ; he is every where a social animal, and as to the nature of the association, the connection of an insignificant tribe of savages differs not so much in kind, as in degree, from the constitution of the most powerful and civilised nation. In the councils of the most barbarous horde, leagues offensive and defensive, truces and alliances, justice and injustice, life and death, war, peace, and commerce, are the subjects of debate : and of what other description are the decisions of the most learned tribunals, or the discussions of the most enlightened senates ? If from the consideration of such rude times and uncivilised people, we pass to those periods of Greece and Rome when the powers of oratory were most conspicuous, we will find that all those subjects which are ever introduced in the speeches of the most refined and learned speakers, were then almost as well understood as at the present day. Whatever related to the administration of states, or management of families, to prudence in legislation, and vigour and dexterity in execution ; whatever tends to produce wisdom in council, address in business, and elegance in conversation, all these were perfectly understood and successfully practised. Few modern orators could be instanced who would bear a comparison with Cicero, in their

* Gertrude of Wyoming.

Knowledge of the various duties of life, the distinctions of virtue and vice, and all those delicate questions which are so ably and elegantly discussed in his philosophical writings.

From such obvious considerations it appears, that the objects of eloquence admit of but trivial variation, and in like manner it will appear from a little reflection, that the manner of treating the subjects of discussion is no less limited. “*Initium dicendi* (says Quintilian) *dedit natura, initium artis, observatio.*” As Nature has bestowed on all men the first rudiments and principles of oratory, so has observation and experience gradually suggested those rules which have established it as an art, and received the sanction of all civilised and enlightened nations. If we now consider what that is, from the observation and experience of which men have been enabled to draw these precepts, it is immediately evident that this source is human nature; by a conformity with this is the whole art to be judged, and the value of each particular precept to be estimated; and all the achievements that have ever been performed in oratory, resulted from a judicious management of the passions, intermixed with well-timed appeals to the common sense of the audience. But as amidst all the fluctuations of manners and customs, the diffusion of knowledge, and the progress of refinement, mankind, from the barbarian to the philosopher, partake of one common nature, this identity imposes on the orator an

unalterable necessity of exerting his persuasive powers nearly in the same manner.

Poetry is an imitative, or rather a descriptive art, and the objects with which it is principally conversant, are the actions and characters of man, and the external appearance of nature. Now that the actions and characters of mankind are nearly the same in all ages, we need not here repeat; and as to the manners, it is an observation equally old and just, that the most favourable æra for the higher orders of poetry is a period of imperfect civilisation. In this state, man being more dependant on his own individual exertions, than in a more perfect form of society, is less under the necessity of regulating his behaviour according to the pleasure of those around him, his actions are restrained by no artificial delicacy, his manners mellowed indeed from the harsh asperity of the savage, but far from that insipid sweetness too generally found in the modern fine gentleman. The bold swellings of his soul are not taught to subside to the level of good breeding, nor is the strong and varied expression of his feeling lost in (what is too often) the monotony of decorum. Here therefore, before man has assumed that veil of politeness, which, except to a very minute inspector, gives such an uniform appearance to society, the poet has an opportunity of observing the natural movements of the mind, the original and unconstrained features of the human character. Accordingly we find in Homer the most natural characters, which will always retain their power over the mind, because being

founded in our nature, similar ones will daily fall under the observation of all in every age and country. As man advanced in civilisation, the poet was obliged gradually to have recourse more to his invention than observation, and hence poetical characters began to assume less of the species, and more of the individual, less of those grand and striking features, that are common among men in general, and more of those unimportant and accidental differences, that are the result rather of private caprice than general nature. Of this we have a remarkable instance in one of the greatest poetical characters that England ever produced. "Spenser (says * Mr. Hume) contains great beauties, a sweet and harmonious versification, easy elocution and fine imagination, yet does the perusal of his work become tedious. This effect is usually ascribed to the change of manners, but manners have changed more since Homer's time, and yet that poet still remains the favourite of every reader of taste. Homer copied true natural manners, which, however uncultivated, will always form an agreeable picture; but the pencil of the English poet was employed in drawing the affectations and conceits of chivalry."—Hence in a great measure it arises, that in a highly civilised country, the lighter departments of poetry are always more successfully cultivated than the higher. Even in such compositions, however, we should not be surprised, if absurd, and perhaps sometimes unnatural

* *History of England*, App. 5.

representations of manners be introduced ; or if at best the characters, however true, should be superficially traced in the ever-varying tints of custom and fashion, rather than deeply and distinctly marked by the impressive stamp of passion and of nature. We should ever remember that all cannot be equally novel and natural, and that a poet, if he be strictly confined to the latter class, must make the same confession and defence to which Terence had resorted so many ages before him.

————— Eas se non negat

Personas transtulisse ex Græca————
 Quod si personis iisdem uti aliis non licet,
 Quî magis licet currentes servos scribere,
 Bonas matronas facere, meretrices malas,
 Parasitum edacem, gloriosum militem,
 Puerum supponi, falli per servom senem,
 Amare, odisse, suspicari? denique
 Nullum est jam dictum, quod non dictum sit prius,
 Quare æquom est, vos cognoscere et ignoscere,
 Quæ veteres factitarunt, si faciunt novi.

Prol. ad Eunuch.

If we now turn our attention to the grand source, from which poetry derives all its similes, allusions and illustrations, it is immediately apparent that the progress of time has not added to natural objects any qualities with which they were not originally endowed, and therefore no such object is better adapted now to excite in the mind a train of poetical images, than it had been in the primæval days of poetry.

Whatever exalts the imagination by its sublimity, raises our admiration at its magnificence, or awes us into a still more violent emotion by its terrific grandeur; whatever on the other hand fascinates us by its beauty, charms us by the harmonious variety of its colours, or delights by the exquisite delicacy of its proportions, every such object was equally, and, in some cases, better qualified to make the same impression on the poetic mind three thousand years from the present period. The din of battle, and the roaring of the winds and waters, must have possessed the same solemn and fearful qualities; the melody of the lyre, the gaiety of a vintage feast, and the serene tranquillity of a summer's eve, must have had the same chearful and enlivening effect in the days of Homer, as at present. When Virgil breaks forth into that exclamation——

“ Oh quis me gelidis in vallibus Hæmi
Sistat, et ingenti ramorum protegat umbra !

or cries out,

“ Oh fortunati nimium, sua si bona norint,
Agricolæ !”

the charms of a country life must have appeared as attractive to him, as to Thomson or any other modern. And Horace, when he sang the following verses, must have felt the pleasing pain of love with a sensibility as exquisite as Moore himself can pretend to—

———“ Urit me Glyceræ nitor,
 Splendentis Pario marmore purius,
 Urit grata protervitas,
 Et vultus nimium lubricus aspici.”—

The fields of Ullin were as green, and the health of Morven as gloomy, in the days of the real Ossian as of his pretended translator, “ the blue waves of Erin” presented then as brilliant a prospect, “ when they rolled in the light of the morning,” and the interval of ages has certainly not rendered “ the grey mountains” more capable of producing a train of melancholy ideas. It may be said that the store of nature is inexhaustible, and that a true poet will always find something there, which though it had escaped the notice of his predecessors, is capable of being used to advantage, as an apt illustration of his sentiments, and a valuable ornament of his composition. That this is true in a philosophical sense, there can be little room for doubting, it is certain that we may be for ever approaching to a more intimate acquaintance with the works of the Creator, without ever arriving at complete knowledge ; He alone, who made them, can perfectly comprehend the design, utility, and extent of His own stupendous performance ; but its truth in that sense in which only it is considered advantageous to the poet, will appear, on a little consideration, to be extremely questionable. It must be granted, that by a close and minute examination of surrounding objects, several ideas will suggest themselves, which would escape the transient glances of a more careless ob-

server: but in order that your comparison should make the desired impression on the hearer, he must be previously acquainted with that fact or natural appearance to which your simile alludes. The end of poetry is not so much to instruct as to please, and the business of the poet is not to inform his reader of the existence of that phenomenon itself, but to discover to him some connection between it and the subject which it was intended to illustrate. It is in this respect nearly the same with poetical description as with logical definition, and in order that a definition be intelligible, it is necessary that your reader should be previously acquainted with the signification of all the terms used in the explanation. I have not thought to make any mention of history in this slight survey of the Belles Lettres, for as it is evidently much more limited in its objects, and circumscribed as to the use of ornament and illustration, than poetry or oratory, it must admit of still less variation; different successive histories may be composed, but they are all models of the same grand fabric, the colouring, the ornaments, and the style of architecture varying perhaps in the minuter parts, but the general outline, the proportion of the principal members, and the most striking features unaltered.

It has been now shewn that the sciences are in themselves progressive, both from the nature of their objects considered in the abstract, and the inexhaustible variety of the creation contemplated in a philosophical manner. The objects of the politer arts, on the contrary, admit of but trivial alteration,

and that is of such a nature as to produce rather delicacy than strength, a chaste and frugal accuracy, rather than an irregular and exuberant boldness. The sciences address themselves to the reason, a faculty which grows with their growth and strengthens with their strength, the extent of whose improvement is illimitable, and which we are led to expect may continue its progress through an endless series of ages. The Belles Lettres on the contrary appeal to the common sense, the passions, and that branch of the imagination, where the train of thought is suggested rather by sensation than reflection; the first of which three is nearly the same in the savage and philosopher, but in the other two, the Celtic or Scandinavian bard has a great and evident advantage over the refined versifyer of modern times. From these considerations it is abundantly evident that there is no occasion to have recourse to the hypothesis mentioned in the beginning of this essay, but there are other circumstances, which, though they are well known as the principal causes of the retardation of the ancients, it may not be proper entirely to omit.*

1st. In philosophical investigations they made no use of mathematical reasoning, or of that species of induction, which since Lord Bacon's time has been justly called philosophical.

2d. In pure mathematics they were too cautious in their methods of demonstration, the foundations of mathematical

* I have avoided mentioning any of the other causes enumerated by Bacon, because they have been equally prejudicial to modern, as to ancient, writers; it would be easy to give instances, were it to the present purpose.

learning indeed were laid with due attention to strength and security, and its base was constructed with solidity and elegance, but still the plan was confined, and the dimensions of the intended fabric contracted ; that microscopic nicety, with which they examined every minute particle of the mass, prevented them from taking a general survey of the rich materials that lay before them ; and thus when they came to the construction of the pillar itself, they were unable to produce any thing worthy of the exertions or talents employed on it, or of the pedestal prepared for its support.

Having thus treated at large of this objection, it is proper that we come to the more immediate consideration of the question itself. Without entering therefore into a panegyric on the reasoning faculty, it is fit that we state briefly, that as it is the distinguishing and noblest faculty of men, so likewise it is that which demands the most diligent cultivation ; its fruits, though the richest and most abundant, are scarcely ever spontaneous, and no high degree of literary excellence, whether in polite or scientific learning, has ever been attained without a due discipline and improvement of it. The savage of Otaheite may have been gifted with as much natural talent as Milton or Newton, and yet when we reflect on the transcendent sublimity of mind, which characterised these great men, and the groveling spirit of the other, we are almost tempted to pronounce them not of the same species. There is no one, who will deny the advantage and necessity of this cultivation of the reasoning faculty for the production of the orator, the

critic, or the historian, but it may be said, perhaps, "that as reason and imagination are independent faculties, this necessity of the improvement of the former cannot be alleged in the case of poetry, which may be called the exclusive province of the imagination—that in times, when reason had been but little cultivated, brilliant instances of poetic genius have appeared, and that Homer himself, the great father of poetry, flourished in the very infancy of reason." But it is to be remembered, that Homer, and the others, who shone forth amidst the obscurity of rudeness, were indebted to their strength of reason and accuracy of judgment, no less than the vigour of their imagination. The works of Homer in particular abound with sentiments and reflections replete with understanding and wisdom; the numerous speeches with which his poems are interspersed, display the reasoning faculty, in a degree of excellence not unworthy the most experienced philosopher; and if we consider the times in which he lived, the knowledge and learning which appears throughout his writings, has highly deserved that admiration with which it has been received by posterity. Horace says, "that wisdom is the origin and source of all good writing," and wisdom is not the endowment of nature, but the effect of long and patient study, of continued exercise and unremitting perseverance. If the necessity of improving and consolidating the understanding was so great in the times of Horace, as this and several passages of his works declare, it must be allowed, that among all the disadvantages under which tragic and epic poetry

labours at the present day, it would be a most presumptuous attempt, even in a mind of the greatest natural abilities, to undertake such a pursuit as will almost necessarily bring him into competition with the ancients, were not these circumstances, in which he is unavoidably inferior, counterbalanced by the opportunities of a more comprehensive education. And if in the review of modern literature, we should find any, who, though uneducated and uninstructed, with their reason undirected and their knowledge not much extended beyond the informations of sense, have by the sole force of native talent raised themselves to an eminence inaccessible to others though possessed of all the artificial aids that the most elaborate cultivation can bestow, we are hence not to conclude that learning is of no utility, and improvement of the reason superfluous, but rather to reflect, how much more decisive would be the victory of the one, how much more complete the defeat of the other, if these extraneous advantages had been equally withheld or equally communicated. But it has been the universal opinion of mankind in every age, that education is necessary for the perfection of the faculties, and reason seems to be the only one (if perhaps we except memory,) that discipline can improve or exercise strengthen. In our infancy the reasoning power makes no appearance, the mind has then no opportunity of comparison, being distracted by the multitude and variety of objects; even those which his more experienced eye afterward contemplates with indifference, being adorned with the fresh and glossy complexion of

novelty. His mind is as yet occupied only by individual and unconnected ideas, and the world presents to him an uneven appearance, composed of innumerable detached and irregular surfaces, which perplex him by the confused and scattered manner, in which they reflect their light to his intellectual eye. Even for a considerable time after the reasoning power has begun to unfold itself, his apprehension continues wavering and his judgment feeble, he examines with the uneasiness natural to incapacity, and pronounces with hesitation and reluctance. Nor is it to be imagined that time alone would be a sufficient remedy for this imperfection, in an undirected mind this distraction of thought usually subsides into listlessness and indifference; the wonder caused by the novelty is gone, but it is not succeeded by cool deliberation, they are satisfied with the confused notions casually caught up while the objects attracted their attention, and at the same time derive no profit from their experience, for along with this cold disregard for every thing that is familiar, they still retain a restless and insatiate curiosity. Of the truth of this we may have abundant proof in the illiterate of every country, who evince complete insensibility and disregard to familiar objects, even though they have the strongest claims to their attention, and at the same time are anxiously inquisitive with regard to every thing that has the recommendation of novelty. And * there are many even among those, who may

* Reid App. to Home's Sketches, Vol. III.

be called learned, that from the habit they have acquired of submitting their opinions to the authority of others, or from some other principle, that operates more powerfully than the love of truth, suffer their judgment to be carried along to the end of their days, either by the authority of a leader, or of a party, or of a multitude, or by their own passions. Such persons, however learned, however acute, may be said to be children all their lives.

Having thus seen that the improvement of the reasoning faculty is indispensably necessary to all those who would aim at excellence in any department of polite literature, even in poetry with which it is apparently least connected, we are now to examine what description of study is best adapted for this purpose, what mode of instruction might correct the judgment without encumbering or retarding the fancy, might confirm the strength and sagacity of the reason in its pursuit, and enlarge the field of the imagination by its possession. And first, for the discipline of the understanding no study has ever been thought so proper as that of mathematics, almost all the ablest writers on the subjects of education and human faculties have recommended it, and their opinion has been sanctioned by the approbation of those learned and enlightened men of every country, to whom has been committed the superintendence of academic instruction. Quintilian expressly inculcates the advantage of mathematical learning to an orator; and Locke says that he would have all children learn mathematics, “not, says he, to make them mathema-

ticians, but to make them reasonable creatures ;” to which opinion Dr. Reid agrees, for two reasons. First, “ because there is no other branch of science, which gives such scope to long and accurate trains of reasoning,” by which the mind will be gradually restrained from its natural tendency to run into extraneous matter, and insensibly acquire the habit of persevering pursuit and steady application. Secondly, Because in mathematics there is no room for authority, or prejudice of any kind which may give a false bias to the understanding.” It may indeed be urged with some appearance of plausibility, that as one of the chief requisites for a poetical character is a susceptibility of the attractions of novelty, any mode of discipline which tends to remove that, must be vitally injurious to the cause of poetry. But we are to remark, that novelty in itself does not constitute an object fit for the taste or imagination to dwell on ; it is not a quality of the thing itself, properly speaking, but merely relative to the observer, and therefore, unless it be united to the inherent and permanent qualities of beauty or sublimity, it can have but little claim on the poet’s attention. No one ever asserted that novelty alone was sufficient to render poems, pictures or other representations agreeable, and it would be difficult, if not impossible, to assign a reason, why that which is thus universally rejected as a foundation for the secondary, should be admitted as a constituent and original cause of the primary pleasures of the imagination. Addison, indeed, and Akenside after him, have enumerated novelty

among the sources of the primary pleasures of the imagination, but Addison lived in the infancy of criticism when the philosophy of taste was as yet unknown, and Akenside, in the revisal of his celebrated poem, has omitted it altogether, comprehending all in that twofold division sanctioned by the authorities of Burke and Alison. The real value of novelty Dr. Reid has thus happily expressed. "When novelty is altogether separated from the consideration of worth and utility, it makes but a slight impression upon a truly correct taste. Every discovery in nature, in the arts and sciences has a real value, and gives a rational pleasure to a good taste. But things that have no other recommendation but novelty, are fit only to entertain children, or those who are distressed from a vacuity of thought. This quality of objects may therefore be compared to a cypher in arithmetic, which adds greatly to the value of significant figures, but when put by itself, signifies nothing at all."

Mathematical studies, therefore, though they in a great measure remove that sensibility to novelty which is generally supposed essential to a poetical character, are not on that account alone to be considered inimical to the imagination. The exercise and improvement of reason, whatever effect it may have in regulating and directing the passions, neither seeks nor tends entirely to suppress them. In the present state of criticism, we should be much more inclined to doubt the soundness of a man's taste, than admire the delicacy of his feeling, who could exspatiate with rapture on the charms

of a prospect in general, without being able to point out those particular objects which had principally contributed to call forth his admiration. No one will say, that the study of philosophical criticism is a pursuit calculated to injure the imagination; to say that a man can attain to a high rank in poetical reputation, without learning what to avoid or what to imitate, or why the former should be rejected, and the latter adopted, would be absurdity too gross for refutation. In order to succeed in a composition of your own, you must have investigated the principles, and searched into human nature for the causes of that success in others; you should not be content with a few fruits, that chance might present or desultory observation procure, you should endeavour to get possession of the parent stock, from which all the scions shoot forth, and from which issues the vital principle that is necessary for the preservation, the beauty and the strength of the whole body. This taste which is thus necessary for a poet is nothing else but a refined judgment; they are not two distinct powers of the mind, but different species of the same faculty; that, which when employed on scientific subjects is called reason, in matters of critical enquiry, will receive the appellation of taste; the objects with which the mind is engaged vary, but it is the same understanding that is exercised in both cases. "If then," it may be urged, "these two are really not essentially different from each other; if it be the same judgment that is exercised in both enquiries, where is the occasion for mathematical study of which a poet or ora-

tor can never make any direct use in his works ; will not the perusal of works on taste and criticism be sufficient to give him that strength of conception and justness of thought, which is so much insisted on, as being requisite for all men ?” To this it may be answered, that at the period best adapted for the strengthening of the faculties, the mind scarcely knows any other evidence but that of sense, and is perplexed and confused at the simplest abstract question ; any attempt therefore to turn the mind immediately, and without preparation, to a study abounding in minute and subtle distinctions, where the *medii termini* are perhaps never intuitively connected with the extremes, or with each other, must be attended with extreme labour and difficulty. The conclusions, never drawn with demonstrative force, would to such a mind appear entirely unsatisfactory, nay, without a previous acquaintance with logic, he would be unable, from the diffuse style in which such compositions are generally written, to comprehend the tendency of the argument, or perceive whether the induction be fairly made from the particular instances previously laid down as the foundations of a theory. It has been remarked, as a signal instance of the wisdom and benevolence of the DEITY, that darkness comes not on us suddenly ; we are prepared for the change by the gradual decrease of light, until at length the moon almost imperceptibly resumes her station in the heavens. In such gradation should we arrange the succession of studies for the enlightening of the mental eye, we should not plunge it at once from

the lustre of sensitive knowledge into the obscure mazes of metaphysical criticism, we should first indulge it in the contemplation of the splendor of mathematical demonstration, then let it enjoy the milder and less irresistible light of philosophical reasoning, and last of all commit it to those more attenuated beams, that enliven the regions of taste and criticism. "The truth is," says Addison, "there is nothing more absurd, than for a man to set up for a critic, without a good insight into all the parts of learning, whereas many of those, who have endeavoured to signalise themselves by works of this nature among our English writers, are not only deficient in the abovementioned particulars, but plainly discover by the phrases they make use of, and by their confused way of thinking, that they are not acquainted with the most obvious and ordinary systems of arts and sciences." Here we have pointed out to us by the first great critic of our nation, the fundamental cause of the errors of his predecessors ; he refers it entirely to their "want of a good insight into all the parts of learning." And if the opinion of such a man as Addison wanted any support on such a subject as criticism, the distinguished success with which it has been prosecuted of late by men conspicuous for their scientific acquirements, is the strongest and most satisfactory corroboration of his judgment. And the same elegant and ingenious author observes, that "it is not sufficient for a man who sets up for a taste in criticism, to have perused the Ancient and Modern Classics with attention, unless he has also a clear and logical

head. Aristotle, who was the best critic, was also one of the best logicians that ever appeared in the world." Though fully conscious of the advantages resulting from the study of logic, I should have hesitated to mention it as useful for the acquisition of a just and delicate taste, were I not thus sheltered by the authority of the most elegant of critics. At the present day, the prejudice against that art runs so high that the very mention of it, when treating of polite literature, is in danger of being accounted absurd and pedantic; and to enter into a formal vindication of it, and a detailed exposition of the benefits accruing from its cultivation, would (beside that it would extend this little essay much beyond the intended limits) be only transcribing the eulogiums of several, distinguished not only for their scientific knowledge, but more elegant and refined literature. It will, however, perhaps not be superfluous to mention one instance, where logic seems of the utmost importance to the poet and the critic. The chief requisites for a truly noble and sublime style, are energy of thought and justness of sentiment, such as when clad in the plainest garb, will display sufficient internal marks of an inherent and unalienable dignity. For this purpose Longinus advises us to examine splendid passages of the poets and orators, "lest they should possess only that semblance of majesty, which is often produced by a profusion of figurative expression and rhetorical ornament, when on the contrary, if more accurately inspected, they would be found empty and superficial, and meriting the contempt rather than the

approbation of every sound and genuine critic." * Quintilian also tells that there are some who pay more attention to elegance of expression, and brilliancy of metaphor, than to real strength of conception, correctness of opinion, and weight of argument. † Pope has said, that a little learning is a dangerous thing, and his own Essay on Man is a memorable and lasting instance of the truth of his observation. Had he possessed that logical acumen which seems to be so much despised, he would not have been seduced by the artful sophistry of Bolingbroke into a defence and illustration of the doctrine of fatalism. That he was seduced, is evident, both from the conduct of Bolingbroke, who is said to have ridiculed him, among his confidential friends, for having adopted principles, of which he did not perceive the tendency, and also from that ardor of delight and profusion of gratitude, with which Pope accepted and acknowledged the gratuitous defence set up by Warburton.

That Pope was thus deceived by the specious arguments of his insidious preceptor, cannot be attributed to a natural defect in the discursive faculty, on the contrary the manner in which he treats this very subject is a sufficient proof that he possessed it in a very high degree: nor can we imagine that he adopted these dogmas immediately and without ex-

* Μη τινα μεγεθες εχει φαντασιαν ταυτην ἡ πολυ προσκινται το εικη προσαναπαλαττομενον, αναπα-
τυσσομενα δε αλλως ευρισκοντο χανουα, ὡς τε θαυμαζεν το περιφρονειν ευγενεστερον.

† Sunt qui neglecto rerum pondere et viribus sententiarum, si vel inania verba in hos
modos depravaverint, summos se judicent artifices, ideoque non desinunt eos nectere.

amination, that trembling sensibility which he always manifested with regard to his literary reputation, will not allow us to suppose it; it remains then that we account for it by his ignorance of that art, which professes to unfold the most complicated chain of fallacy, and guide the mind in safety through the labyrinth of ingenious sophistry. Here then we see an important advantage to be derived to the poet from the study of the art of reasoning; and the same instance is sufficient to prove its still more indispensable necessity to the critic. “The Essay on Man” says Johnson *, “abounded in splendid amplifications and sparkling sentences, which were read and admired, with no great attention to their ultimate purpose; its flowers caught the eye, which did not see what the gay foliage concealed, and for a time flourished in the sunshine of universal approbation. So little was any evil tendency discovered, that, as innocence is unsuspecting, many read it for a manual of piety.” Here was that semblance of majesty, against which Longinus advises the critic to be so cautious, and with such dexterity and elegance was the counterfeit wrought, that it was received as genuine by the universal English nation; and for the discovery of the imposture, the world was indebted, not to any of the wits and more refined critics of the day, but to a professed writer on the subject of logic.

Thus have we seen that subjects of a lighter and more elegant turn are capable of being treated with increased per-

* Life of Pope.

spicacity in consequence of the rectification of the taste and correction of the judgment by the partial pursuit of abstruse enquiry. And in like manner by a still more minute and philosophical research into these matters, will the mind be disciplined for the discussion of those graver and more serious subjects, suited to the occupation of contemplative sagacity; subjects which necessarily diverge from the line of classical elegance and simplicity, less engaging, more important, less capricious, and more profound. The quantity of scientific knowledge likely to be advantageously instrumental in the prosecution of less rigorous studies, should be in some measure proportionate to the weight of those studies themselves; and it should be regulated by ascertaining, whether the reason, or the imagination, be likely to gain the ascendancy, and determined by the degree of the ascendancy which either may be presumed to obtain. The wild and irregular charms of the Minstrel's lay, the melting pathos of the bard of Wyoming, the plaintive simplicity of the "Deserted village," and the elegant voluptuousness of Moore, could receive but little benefit from mathematical enquiry, or logical discipline. In such compositions, habits of close and accurate reasoning may save the writer from impropriety of thought or prurieny of expression, and may enable him to determine justly what sort of dress and ornament would best become the features and complexion of his characters; but that characteristic beauty which runs through the minutest parts of the writers above-mentioned, and constitutes their

specific difference, can neither be acquired or communicated. Nearly the same may be said of the writers of comedy, and what is called by * Dr. Beattie the comic Epopee; in these cases the characters, manners, and even in some degree the language, are more immediately derived from observation and acquaintance with the world, and † the constitution of society at present is particularly favourable for these kinds of writing. For the archetypes of Squire Western or Sir Anthony Absolute, of Tom Jones and Charles Surface, of Blifil and Joseph Surface, of Dr. Primrose and Parson Adams, of Partridge and Hugh Strap, we have only to look among our acquaintances; and he must be very secluded from the world, who could not point out real characters, such as might be fairly supposed to have sat for the pictures. The chief use therefore that seems to be in the preparatory exercise of the reason for such writing, is in accustoming the mind to determine the degree of abstraction necessary for the formation of a genus, and also in enabling it to make a judicious selection of such circumstances as may be found in different individuals of the same character. The character of Tom Pipes may be considered as a fair general representative of British seamen, and yet there certainly was no one seaman that ever corresponded perfectly to the archetype; it is a combination of all those peculiarities incident to that mode of life, each of which may be

* Essay on Poetry, and Music.

† Beattie's Essay on Laughter and Ludicrous Composition.

supposed to be found individually in different persons. If therefore for the classification of natural objects by philosophical abstraction, there be an indispensable necessity for sound judgment and accurate discrimination, the occasion for it in this poetical abstraction must, from the superior difficulty of the operation, be immediately acknowledged. In philosophical abstraction you are required only to omit peculiarities, here it would be a vice not only to add an idea that was not to be found in any, but to retain what was not to be found in all; whereas, in the other case, you are expected not only to omit, but to retain some singularities, and even to add, as far as possibility will allow, whatever seems necessary for the perfection of the generic character. In the one mode you diminish from real existence, in the other you both diminish in one respect, and encrease in another; in the former the genus is partial and incomplete, in the latter it is exaggerated and redundant. In philosophical abstraction you have but one, and that apparently a simple rule to follow, that is, to leave out all differences whatsoever: in the other you leave out differences not merely as such, but because they are accidental to that particular character you intend to delineate; it is requisite not only that the individuals of the species described should differ from each other in these qualities, but agree with individuals of other classes in the same points. Thus in drawing the character of Pipes, a trait was not to be omitted, merely because it was not universally found in all seamen, but because it

might be found in other persons of any other assignable profession, and consequently could not be retained in a representation which was intended to be characteristic. But this, which in itself appears to be a more delicate operation than that required in the former case, is only the beginning; then follow the collection of all the characteristic features really existing among the different individuals of the class, and the addition of such farther decorations as seem consistent with verisimilitude. When Augustus Cæsar committed the imperfect *Æneid* to the hands of some of the greatest geniuses of his day, he allowed them only to correct by retrenching what was redundant, he did not suffer them to add a single line, or even to complete a broken one; how much would the difficulty have been augmented, had he commanded them to give distinct characters to the “*fortis Gyas fortisque Cleanthus*,” and raise each of them to the elevated rank of poetical genera? If from the consideration of these lighter species of composition, we now turn to others of a more sublime and dignified nature, it will appear evident at first sight, that for such productions as *Paradise Lost*, the *Essay on Man*, the *Pleasures of Imagination*, or the *Anti Lucretius*, the judgment cannot be too correct, the understanding too assiduously cultivated. Here it is necessary for the soul to put forth all its energies, and nothing that appears, even in the slightest degree, likely to contribute to its strength or support, should be neglected. The old alchymists pretended to extract gold from every sort of me-

tallic substance ; it should be the endeavour of the poet who undertakes such exalted subjects as we are considering, to effect that which they professed to perform. In such an arduous contest, it is not enough to have the natural strength and vigour of an Achilles, one should like him be arrayed in impenetrable armour, and provided with weapons not liable to be broken by violence or impaired by time ; to persons of ordinary strength and stature they might be rather an incumbrance than an assistance, but when possessed by one of superior powers and unusual dimensions, they will be not so much an addition to his natural frame as a part of it, “ they will be as wings to him,” according to the expression of the Grecian bard.

Few, who consider, with even passing attention, the religious and political controversies of former times, as well as of the present day, but will be inclined to acknowledge the manifest and extensive advantages resulting from a dexterous and scientific management of subjects unconnected with scientific investigation. Scientific knowledge, to a very considerable amount, is necessary to predispose the mind to a systematic and sagacious enquiry into subjects of profound and tediously protracted controversy. And so great is the necessity for it in this particular case, that it is universally admitted, the cause of truth has never suffered more real detriment than from the hasty and precipitate zeal of superficial theologians. It was a saying of the celebrated Ganganelli, that he could tell, from the perusal of a work on any

argumentative subject, whether the author was a mathematician or not, and without doubt there will be a considerable fund of internal evidence, whence a decision may in general be formed as to the author's habits of abstruse speculation. It is the peculiar glory of the Church of England, that beside giving the most able and irrefragable defence of those tenets in which she differs from other Christian societies, she has, in every age since the Reformation, produced hosts of zealous and enlightened men, who have stood forth the champions and protectors of Christianity in general, and successfully exerted themselves in overturning whatever had even the slightest or most remote tendency to weaken the stability of the true faith : every Hobbes has had his Cumberland, every Spinoza his Clarke, and every Tyndal his Conybeare ; nor is it only over the malicious cavils and artful sophistry of professed enemies, that the Protestant Church has to exult, the more venial errors of sincere but ill-judging Christians have not been suffered to pass unnoticed or uncorrected. Now almost all those, by whom such inestimable service has been performed, were of the great theological school of the seventeenth century, all of them carefully disciplined in scientific reasoning, almost all considerable mathematicians, acute metaphysicians, and carrying their estimation of logic so far, as to use it technically and with the most complete success, in their arguments and refutations. Cumberland appears to have been not only one of the clearest and most forcible reasoners, but one of the deepest philosophers of his

time ; no sort of learning seems to have escaped him, and it is surprising to observe with what dexterity and effect he turns subjects apparently the most unconnected and remote into the happiest and most striking illustrations of his arguments. Had Barrow been known to the world only as the author of Geometrical and Optical Lectures, and a cultivator of the method of indivisibles, he would be entitled to a high rank among the learned men of his country ; but by directing the resources of his strong and highly improved understanding to the elucidation of the doctrines of Christianity, he has established for himself still more extensive claims to the gratitude and admiration of England. Clarke would have been still regarded with veneration as the friend of Newton, the partaker in his studies, and explainer of his system, had it not been considered that the best proof of his mathematical abilities was his demonstration of the Being and attributes of the DEITY. And the present age has to boast of men of our own country and university, who have shewn the fruits of their more abstract speculations in masterly and scientific works on questions of the highest moment and most entangled complexity, in discourses that display the discursive faculty employed in the most exquisite perfection on the most difficult and important doctrines of the Christian religion. How great the utility of close and accurate reasoning is to the eloquence of the Bar or the Senate, is too obvious to require a detailed and minute exposition ; it is well known that several of those great men, who are now in the highest reputa-

tion for forensic talent, had in the early part of their lives, and during their course of academic education, been distinguished for their abilities in severer studies. The great Athenian orator derives a considerable share of his renown, from a strict attention to cleanness of arrangement and strength of reasoning, even in the full career of his rapid and impetuous eloquence; in the very "whirlwind of his passion" his presence of mind never forsakes him, he keeps his eye steadily fixed on the course through which he is to direct his own argument, and marks attentively the obstacles which his rivals or enemies may have opposed to his progress. And to account for this happy union of emotion and calmness, of transport and deliberation, we are told that he was a pupil of that school over whose gate it was written, that no one ignorant of geometry should enter. Servius Sulpicius, according to Cicero, was the greatest orator among those distinguished for legal knowledge, and the most distinguished for legal knowledge among the eminent orators; though there were many experienced civilians and acute pleaders at the time, he was the only one who understood Law as an art, who had regularly digested and methodised it, who had reduced it to settled principles, and given it a scientific appearance.— "This" says the orator, * "he would never have effected by the knowledge of law alone, had he not also learned that Art, which teaches to distribute an entire subject into it's parts, to explain what was unknown by definitions, and elu-

* Cicero—Brut.

cidate what was obscure by a full and clear interpretation, to discern whatever is equivocal or ambiguous, and point out the inaccuracy to others; and which, finally, supplies you with a rule to distinguish between truth and falsehood, and perceive what consequences may, and what may not, be fairly deduced from certain premises."

Hitherto we have considered the sciences only as they tend to strengthen the reason and correct the judgment, to produce a condensation both of thought and of expression, to give perspicacity in detecting error, clearness in arranging the confutation of an adversary's opinion, and accuracy in methodising the statement of one's own. But they are also of no unimportant service to the Imagination, and will enable the possessor of them, to display a vast variety of illustrations and similitudes, which he cannot be censured for having borrowed from the ancients, because they depend on ideas with which they were unacquainted. "The imagination," says Burke, * "is incapable of producing any thing absolutely new, it can only vary the disposition of those ideas which it has received from the senses." That the imagination has no creative power, properly speaking, is immediately apparent, but that the exercise of it's combining faculty is limited to ideas of sensation, is as erroneous as the former assertion is incontrovertible; the imagination derives a great, and at the present day, should derive much the greatest supply, from reflection. We have already seen that nature,

* Introduction to Sublime and Beautiful.

as it presents itself to the senses, preserves a constant uniformity; this source of association therefore, great and extensive as it is, must naturally be liable to exhaustion, and it appears at present to be strained very nearly to its limit. But in the other case there is no assignable boundary; every encrease of knowledge serves to shew us still more sensibly than we were before aware of, how much still remains to be discovered. This difference between the two is beautifully expressed by Akenside—

“ Soon feeble grows
 Their impulse on the sense, while the pall'd eye
 In vain expects it's tribute, asks in vain
 Where are the ornaments it once admired.
 Not so the Moral species, nor the Powers
 Of Passion and of Thought; the ambitious mind,
 With objects boundless as it's own desires,
 Can there converse, by those unfading forms
 Touched and awakened.”

In almost every department of philosophy, natural philosophy in particular, and in every branch of natural history, the moderns have an evident and great advantage over their predecessors. Hence are derived an endless multitude of ideas unknown to antiquity, and various opportunities of tracing out new and unexpected similitudes; and whoever is acquainted with the doctrine of combinations must perceive, that the sphere of the imagination is encreased in a much greater proportion than the actual number of addi-

tional notions acquired by the enlargement of literary knowledge.

It may be said, that the mind may be overpowered with the weight of knowledge, if encreased beyond a certain limit, and the imagination will be perplexed by the number of ideas and consequent difficulty of choice; thus their multiplicity will prevent their use, and the disappointed scholar will too late find the natural vivacity of his fancy deadened, his original perspicacity clouded and obscured, and will lament the loss of that time, which might have been more advantageously employed in the contemplation of the beauty and sublimity of the sensible creation. It may appear a confirmation of this, that the thoughts and sentiments of persons in a state of comparative rudeness, where there is little information beyond that of sense, are generally considered bolder and more poetical than those of other persons; and that the effusions of youthful poets are supposed to shew an exuberant redundancy of imagery, that is usually much diminished in the days of improved reason and accumulated knowledge. As to the first, however, we should not ascribe it so much to a more vivid force of imagination, as the poverty of language invariably attending imperfect civilisation. All languages are in some degree metaphorical, it would be impossible to have distinct appropriate signs for every object of thought, therefore we are constrained to borrow the names properly applied to more familiar ideas, and extend them to others with which we are not so long or so intimately ac-

quainted. And if in such a copious language as that of our's, there be few words that are not used in a variety of significations, what a complicated heap of metaphor must that tongue be, which does not consist of the twentieth part of our vocabulary? Besides, though the language abound thus in metaphor, it by no means follows that it is, therefore, more poetical or sublime; the style is generally very unequal; if one passage is somewhat beyond the level of ordinary poetry among us, the next is as much below it. We know that in natural objects, a country abounding in sudden declivities and steep ascents, strikes the eye as much more picturesque, and perhaps more elevated, than a tract of as great height in reality, but less diversified in it's appearance.

If this be so in the primary objects of the imagination, (and I believe every one accustomed to the observation of nature will assent to it) it may, by an easy, and apparently just analogy, be transferred to the secondary. As accuracy of proportion, therefore, diminishes the visible height of an object, so a composition, the symmetry of whose parts is regulated by an accurate taste, will not impress upon the imagination at first view, those ideas of sublimity and boldness, that are so powerfully excited by the perusal of the wild productions of untutored fancy. The second opinion above mentioned, that the early poems of men possessed of real poetical talent, abound in a gay luxuriancy of thought, unequalled in their maturer works, is also very questionable. On the contrary, I believe it will be found, by examining the

juvenile pieces of our own celebrated poets, that a poverty of idea prevails uniformly among them. They even seem conscious of their own defect, for whenever they seize upon a favourable or happy idea, they seem unwilling ever to let it escape, and it is compelled to drag its way through twenty or perhaps thirty lines. Roscommon says of the French poetry, compared with the English,

“ The sterling bullion of one English line,
Drawn to French wire, would in whole pages shine.”

and some old critic, (Lucian, I believe) speaking of that passage in the Odyssey, which has been so admirably translated by Pope, and begins thus ;

“ With many a weary step, and many a groan,
Up a high hill he heaves a huge round stone.”

MART.

says, “ if it were Apollonius or Callimachus that attempted this description, how many verses would they have employed in tracing the ascent of the stone, and how many more would they have found necessary to conduct it down the eminence, whither it had been moved with such tedious labour, as well of the poet, as the criminal.” Such a difference as is here pointed out between French and English poetry in general, or between the sublime conciseness of Homer, and the minute and feeble refinements of Apollonius, may be observed between the compositions of the same poet in youth and in

maturity, between the full grown majesty of the author of the *Æneid*, and the crude imbecility of that Virgil,

“ Qui modo Culicem flevrat ore rudi.” Mart.

If then we are to conclude that the productions of a poet are thus improved by time, not only in correctness but in imagination, (and such a conclusion may be drawn without much apprehension of error) and if it cannot be attributed to an encrease in the warmth of his feelings, or in his sensibility with regard to the beauties of external Nature, the only remaining method of accounting for it is to ascribe it altogether to the augmentation of his intellectual wealth by the rich and varied offerings that philosophy presents.

The sciences assist the imagination not only by encreasing the opportunities of combination, but also in a manner still more important for the purposes of poetry, by raising a susceptible mind to such a fervor of enthusiasm as can scarcely ever be excited by the impulse of unassisted sense. “ Every * accession of knowledge in itself is pleasant, and affecting. Even mathematical truths, which have the least intercourse with human passions, are not received with cold indifference when considered as purely speculative, without any attention to their use or application ; we are delighted with them, nay sometimes even transported by what metaphysical critics call the beauty of theorem.”

* Leland on Eloquence, p. 3.

" For man loves knowledge, and the beams of truth
 More welcome touch his understanding's eye,
 Than all the blandishments of sound his ear,
 Than all of taste his tongue. Nor ever yet
 The melting rainbow's vernal tintured hues
 To me have shewn so pleasing, as when first
 The hand of Science pointed out the path,
 In which the sun-beams, gleaming from the west,
 Fall on the wat'ry cloud, whose darksome veil
 Involves the Orient, and that trickling shower,
 Piercing thro' every crystalline convex
 Of clustering dew-drops to their flight opposed,
 Recoil at length, where, concave all behind,
 The internal surface of each glassy orb
 Repels their forward passage into air,
 That thence direct they seek the radiant goal,
 From which their course began; and as they strike
 In different lines the gazer's obvious eye,
 Assume a different lustre, through the breed
 Of colours changing from the splendid rose
 To the pale violet's dejected hue."

AKENSIDE. *

Thus even in questions of a nature completely abstracted
 and mathematical, the mind is capable of enjoying a pure
 and serene satisfaction. It is true that at first the difficulty
 attending the investigation will preponderate over any gratifi-
 cation that the beauty or utility of the conclusion is naturally
 calculated to produce, but his susceptibility of emotion will

* I have taken the liberty of inserting this passage at full length, not only on account
 of the force with which the beginning of it bears upon the argument, but also because
 the remainder of it may be considered as a fair specimen of the manner in which sub-
 jects so decidedly mathematical should be treated by a poet.

increase with his skill, and attractions hitherto unobserved or unheeded will every moment present themselves to his notice. And when his judgment has thus become more exact and refined, those difficulties, which at first were attended with trouble and uneasiness, will now constitute no inconsiderable portion of his pleasure; they will be to him so many testimonies of the skill, the sagacity and invention of his author, will transport him with admiration of his genius, and excite in him a reverence for every relic connected with his memory. Thus will the young philosopher be amply repaid for the obstacles that impeded his progress, by the enjoyment of a pure delight, more tranquil, indeed, but not less satisfactory than that rapidity of impulse with which we are sometimes hurried along by the more commanding features of the material creation. But when the soul is led along to take a more distinct survey of the earth, to observe its various climes, each amply supplied with those productions best suited to the nature of the country, and the accommodation of its inhabitants; when it beholds the numberless tribes of animals that people the distant regions of the earth, the pathless ocean, and the purer element that surrounds us; when it discovers the myriads of inhabitants on every leaf of every plant, and remarks the perfect constitution and regular form with which each of them has been gifted; the young philosopher seems then to have acquired a new sense, he has every where an opportunity of tracing out beauties imper-

ceptible to most observers of nature, and in the contemplation even of objects most familiar to him before, he feels—

“ that kind access of joy,
Which spring on each fair object, while we trace
Through all its fabric, wisdom’s artful aim
Disposing every part, and gaining still,
By means proportioned, her benignant end.”

He is now to enjoy a still more sublime delight; the first wish of Virgil, (whom no one will call cold to the sensible beauties of nature) was—

*“ Me vero primum dulces ante omnia Musæ,
Quarum sacra fero ingenti percussus amore,
Accipiant, cælique vias et sidera monstrent,
Quid tantum properent Oceano se tingere soles
Hyberni, vel quæ tardis mora noctibus obsit,
Unde tremor terris, quâ vi maria alta tumescant
Objicibus ruptis, rursusque in seipsa residant.”*

What Virgil wished for in vain, the poet of the present day has an opportunity of acquiring with ease, and displaying with effect. Under the guidance of Newton, he may range through the solar system, and survey the planets, still obedient to the laws of truth, returning to retrace the paths allotted to them, pursue the devious comet, “ that goeth so far, and no farther,” and perceive the majestic sovereign of the system in conscious dignity still remaining immoveable. If at length his mind should traverse, with Herschel, the full orb of being, he will catch a glimpse of that glory, which no

finite intelligence is capable of comprehending, he will see, in prospect, millions of systems, rising before him, but they only conceal from him the thousands of millions that lie beyond; and when innumerable suns, not one of whose rays is permitted ever to enlighten the corporeal eye of man, blaze out upon him, his keen conception will be dazzled by an excess of lustre, and he will sink into that delirium of joy, that, if ever there be a moment of poetical inspiration, is best calculated to produce it. When he compares this sublime assemblage, with that scene (however splendid it may be) that presents itself to the natural eye, he will cry out with Akenside—

“ Who, that from Alpine heights, his labouring eye
Shoots round the wide horizon, to survey
The Nile, or Ganges, rolling his bright wave
Through mountains, plains, through empires black with shade,
And continents of sand, will turn his gaze,
And mark the wand’rings of a scanty rill
That murmurs at his feet?”

Thus have I feebly endeavoured to point out the advantages that may be derived both to the reason and the imagination, from scientific pursuits; it must, however, be remarked, that for the former all the branches of science are not equally useful; and for the latter, no science whatsoever, except, perhaps, moral philosophy, should be cultivated to its fullest extent, and pursued through all its varieties of minuteness. In the abstract mathematics, the mind, for the

purpose of discipline, has not so much occasion for the conclusion as the premises; in this intellectual chace, it is not the possession of the prey, but the invigoration of our own powers, that should be the primary object. It is evident to every one that this end is not so happily attained by the analytic methods so much in use at present, as by the ancient geometry. For the youth who is destined to be a mere mathematician, algebra offers, in general, an easy and compendious mode of advancing in knowledge, but his knowledge is not philosophy, it is not (to borrow a logical definition) "acquired by the sole force of reason." Were it necessary to insist on this, it would be easy to illustrate it by a comparison of the truths contained in the 2d book of Euclid, as treated by that geometer, and as they would be by an analyst, or by remarking the difference between a demonstration, as it is handled by Hamilton, and by Emerson or L'Hospital; and perhaps still more strongly by observing, that mere characters, of whose meaning no one has or ever can have any conception, (they being supposed the marks of inconsistent notions, as the very name, "impossible quantity," denotes,) are as proper objects of analytical computation, except in the mechanical difficulty of managing them, as real and adequate ideas.

Again it may be prejudicial to the imagination to enter with minute accuracy into any scientific enquiry. He who has been too long habituated to the consideration of abstruse metaphysical enquiries, the patient investigation of mathe-

matical relation, or the examination of the individual and peculiar qualities of natural objects, rather than those which admit of comparison with others, can have but faint conceptions of that vivid glow of feeling, which animates him who has been principally conversant with more elegant and refined pursuits. That enthusiastic emotion which the latter delights to indulge in is a stranger to the breast of the mathematician, and if it should occasionally intrude, it is treated with suspicion, and considered, perhaps, dangerous, certainly unnecessary and extravagant. In the works of the more eminent poets and orators, we occasionally find those noble darings of the soul, which are subject to no critical control; they acknowledge no judge but the fervid spirit that gave them birth, and elude the force of those laws which compress the more terrestrial particles of composition into system and subordination, but are insufficient to restrain the aerial subtlety of the "*divinæ particula auræ*." He who wishes to scrutinise such passages with metaphysical accuracy may pronounce them contrary to the dictates of sovereign reason; but though he thinks himself justified in expressing partial disapprobation at the indiscretion or temerity evinced in the attempt, he cannot refuse, like the Lacedæmonians of old, the tribute due to transcendent prowess and distinguished success. Such efforts no preparatory discipline can enable us to make; such fruits no cultivation can bring forth, they must be the spontaneous offerings of a luxuriant soil, and in a cold climate would decay even in the

hot-beds of the most elaborate education. When Homer, in endeavouring to raise to the highest pitch our conception of the honors of a battle, says, Δεισε δ' ἐνερθεν ἀναξ' ἐνερῶν Ἀιδωνεως, &c. he falls into one of those errors, which made Plato say, that as he raises his men to the dignity of gods, so he degrades his deities to the condition of men, of those very creatures, whom he has called the most miserable of animals; yet none of his poetical readers would wish to have it expunged from the passage, of which it is so grand an ornament. When Demosthenes broke forth into his celebrated oath, Ὁυ μα τες ἐν Μαγαθωνι, &c. or Burke into his eulogium on the Queen of France, and lamentation for the extinction of chivalry, it is hardly possible that they could have produced such towering sublimity by study or deliberation, passion and native genius alone could have effected it.

It will not be improper therefore to mark particularly those circumstances in which a peculiar opposition seems to subsist between the two pursuits. The first cannot be expressed better than in the words of Lord Bacon; in the preface to the *Novum Organum*, he has these words (*In Philosophiâ*) “*Mens rebus morigera sit, nec impotenter rebus insultet,*” and the same great man elsewhere * says, “*Poesis animum erigit et in sublime rapit, rerum similia ad animi desideria accommodando, non animum rebus (quod ratio facit et historia) submittendo.*” The second is nearly the same as Locke

* *De Augm. Scient.*

draws between wit and judgment, the one consists more in forming pleasant pictures to amuse the fancy, by assembling those ideas that have the least resemblance, the other on the contrary is exercised in separating those that have the least difference. This distinction, however, is not to be considered complete. For although it must be confessed, that as imitation is the principal object of poetry, that faculty whose province is the discovery of similitudes claims the chief attention; still it is requisite that we should examine, whether the coincidence be perfect or not, and if not, determine accurately the extent of their parallelism, and precisely mark out the points where they begin to diverge. To have a confused general perception of the resemblance is by no means sufficient, if those features of the picture which are evidently unlike their archetypes be as strongly delineated and highly coloured, as those in which the mind is delighted with the correspondence. Thirdly, a philosophical talent requires the most obstinate patience, and caution approaching to timidity; “a philosopher,” says Bacon, “must always be suspicious of his own natural disposition, and be continually on the watch, lest it lead him into error;” it is incumbent on him as much as possible to stop the natural current of his ideas, and fix his thoughts immutably on one subject; whereas a poet succeeds best by giving loose reins to his imagination, by following the impulse of passion, and indulging himself in that train of thought into which the mind is almost imperceptibly led by the observation of some particular ob-

jects. Even where there is no apparent object for reflection, in the movements of unrestrained reverie, the suggestions of the muse are often most propitious: Cowper seems to hint that no inconsiderable portion of his beautiful poem, the *Task*, was composed during the listless musings that attend a single person, when he has taken his solitary seat by an evening fire. To these we might perhaps add the circumstances, which Bacon, in the first, third and fourth instances of what he calls *idola tribus*, enumerates as prejudicial to the interests of philosophy.

If we should now proceed to examine all those less important differences that arise from the peculiar modes of philosophical and polite composition, it would not only extend this essay to an improper length, but perhaps subject the writer to the necessity of intruding himself into ground already pre-occupied by formal treatises on the subject. Unequal as he is to enter on questions of delicate criticism, and too conscious of his own inability to venture into a competition with others of character deservedly high, he has retrenched several parts that might be claimed as their exclusive property. And where the subject is of long continuance, and almost invites discussion from its nature, it is almost impossible to advance any thing valuable or important without incurring the danger of repetition. Thus an objection has been urged by Locke, and renewed with redoubled force by Warburton, that all figurative language is an abuse of words, that whatever exceeds the strict bounds of logical and meta-

physical accuracy is arbitrary and capricious, and therefore to be avoided as a vice, particularly in philosophical and serious composition. This opinion they both seem to have formed from a mistake of a censure passed by Lord Bacon, on the old philosophers, for ornamenting their pieces with the graces and elegances of rhetoric. “*Auctoribus ipsis suspecta,*” says he, “*ideoque artificiis quibusdam munita fecere.*” But this is not meant as a reprehension of an ornamented style in general, but founded solely on the imperfect state of science among them; for so artful and ingenious was their method of treating their subjects, that they succeeded in deceiving the world into an opinion, that every science, which had received the polish of their hands, was cultivated to the utmost possible degree of perfection. The charge itself has been ably refuted by Dr. Leland, in his *Essay on Eloquence*, and to mention any thing here on the subject would be only to transcribe his ingenious work. And though modern philosophers appear in general to neglect the beauty of their language, or elegance in arranging the parts of the question they consider, yet we have a sufficient number to serve as instances how much might be done in this way. In metaphysics the style and the matter of Stewart are equally topics for praise and admiration; and the fragment of the Latin imitation of Locke, by Mr. Gray, shews of what an exquisite degree of poetical beauty the subject is susceptible. The lectures of Davy will be long remembered in this city for their eloquence and perspicuity, and the *Anti-Lucretius* of Polignac abounds in har-

monious lines and happy expressions, though occasionally it deserves the censure of Voltaire for the use of terms technically scientific.

Such are the opinions that have suggested themselves to the author of this little essay on the question proposed by the academy : he has purposely contracted it, in some places, for the reasons mentioned above, and in others, the pressure of ill health, and the necessary avocations of a more extended and difficult pursuit have prevented him from paying that attention, which the importance of the topic required. Imperfect as it is, he would not have ventured to obtrude himself on the notice of the academy, were he not confident that they would be disposed to look with indulgence, on even a feeble endeavour to point out some of the advantages resulting from a combination of those studies, which have been jointly and equally cherished in this country by their fostering care. They have generously and successfully undertaken the erection of a temple to learning, where the strength and solidity of science is combined with the light and graceful elegance of polite literature, and cannot therefore be displeased at the officiousness of him, who would wish “ to * partake in the work, though not in the inscription, content to assist in the preparation of that cement, which is intended to unite the various and diversified materials employed in the construction of the edifice itself.”

ACADEMICUS.

* Lucian Συμφορητής.